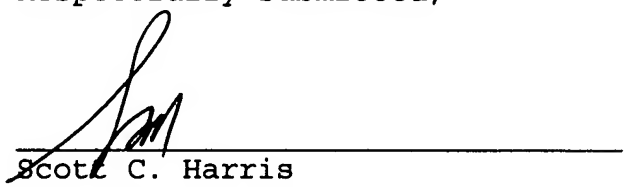
REMARKS

Applicants have amended the application to add claims 26-38. Attached is a marked-up version of the additions being made by the current amendment.

Applicant asks that all claims be examined. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 2/21/00



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**Version with markings to show changes made**

In the claims:

Claims 26-38 have been added as follows:

-- 26. A computer program product stored on a computer readable medium, the program comprising instructions for causing a parallel processor to:

assign tasks for packet processing to a plurality of programming engines;

establish programming stages corresponding to the plurality of programming engines; and,

establish a plurality of pipelines between the programming stages.

27. The computer program product of claim 26 further comprising instructions to establish contexts for the assigned tasks in the plurality of programming engines.

28. The computer program product of claim 27 wherein the instructions for establishing contexts for the assigned tasks comprises utilizing a software controlled cache.

29. The computer program product of claim 26 further comprising instructions to form at least one next neighbor register residing in each of the plurality of programming engines, wherein the instructions to establishing the plurality of pipelines includes transferring data from the at least one next neighbor register residing in one of the plurality of programming engines to a subsequent next neighbor register residing in an adjacent programming engine from the one programming engine.

30. A computer program product stored on a computer readable medium, the program comprising instructions for causing programming engines to:

assign specific tasks for packet processing;

assign programming stages corresponding to the programming engines;

establish a plurality of pipelines between the programming stages; and

establish a plurality of contexts corresponding to the plurality of programming engines for the assigned tasks.

31. The computer program product of claim 26 further comprising instructions to transfer data from a next neighbor

register residing in a currently executing programming engine of the programming engines to a subsequent next neighbor register residing in programming engine adjacent to the currently executing programming engine.

32. The computer program product of claim 26 further comprising instructions to utilize shared variables of the programming stages that include a critical section defining the read-modify-write time of the variables.

33. A multiprocessing system comprising:

a plurality of programming engines configured to process data packets, the plurality of programming engines including:

a plurality of programming stages corresponding to the plurality of programming engines;

a plurality of pipelines between the programming stages; and

a plurality of contexts corresponding to the plurality of programming engines for processing data packets.

34. The multiprocessing system of claim 33 wherein each of the plurality of programming engines further includes next

neighbor registers for transferring data from a next neighbor register residing in a currently executing programming engine to a subsequent next neighbor register residing in an adjacent programming engine.

35. The multiprocessing system of claim 33 further comprising shared variables utilized by the programming stages of the plurality of programming engines, the shared variables including a critical section defining the read-modify-write time of the shared variables.

36. The multiprocessing system of claim 33 wherein each of the plurality of programming engines further includes a content addressable memory (CAM).

37. The multiprocessing system of claim 36 wherein the CAM includes a plurality of entries for monitoring least recently used variables.

38. The multiprocessing system of claim 35 further comprising a minimum resolution of the programming stage defined by the difference between the critical section of the shared variables and the arrival time of a subsequent packet wherein

the critical section is less than the arrival time of the subsequent packet. --